

The status of *Satyrus abramovi* var. *korlana* Staudinger, 1901 (Nymphalidae)

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Abstract. A new status for *Satyrus abramovi* var. *korlana* Staudinger, 1901 as a subspecies of *Karanasa regeli* (Alphéraky, 1881) is proposed. The diagnostic characters of *K. abramovi* (Erschoff, 1884) and *K. regeli* (Alphéraky, 1881) in male genitalia are discussed. Lectotypes are designated for *Satyrus abramovi* var. *korlana* Staudinger, 1901 and *Satyrus regeli* var. *regulus* Staudinger, 1887.

Резюме. Установлено, что таксон *Satyrus abramovi* var. *korlana* Staudinger, 1901 является подвидом *Karanasa regeli* (Alphéraky, 1881). Выделены диагностические признаки *K. abramovi* (Erschoff, 1884) и *K. regeli* (Alphéraky, 1881) в гениталиях самцов. Обозначены лектотипы *Satyrus abramovi* var. *korlana* Staudinger, 1901 и *Satyrus regeli* var. *regulus* Staudinger, 1887.

Introduction

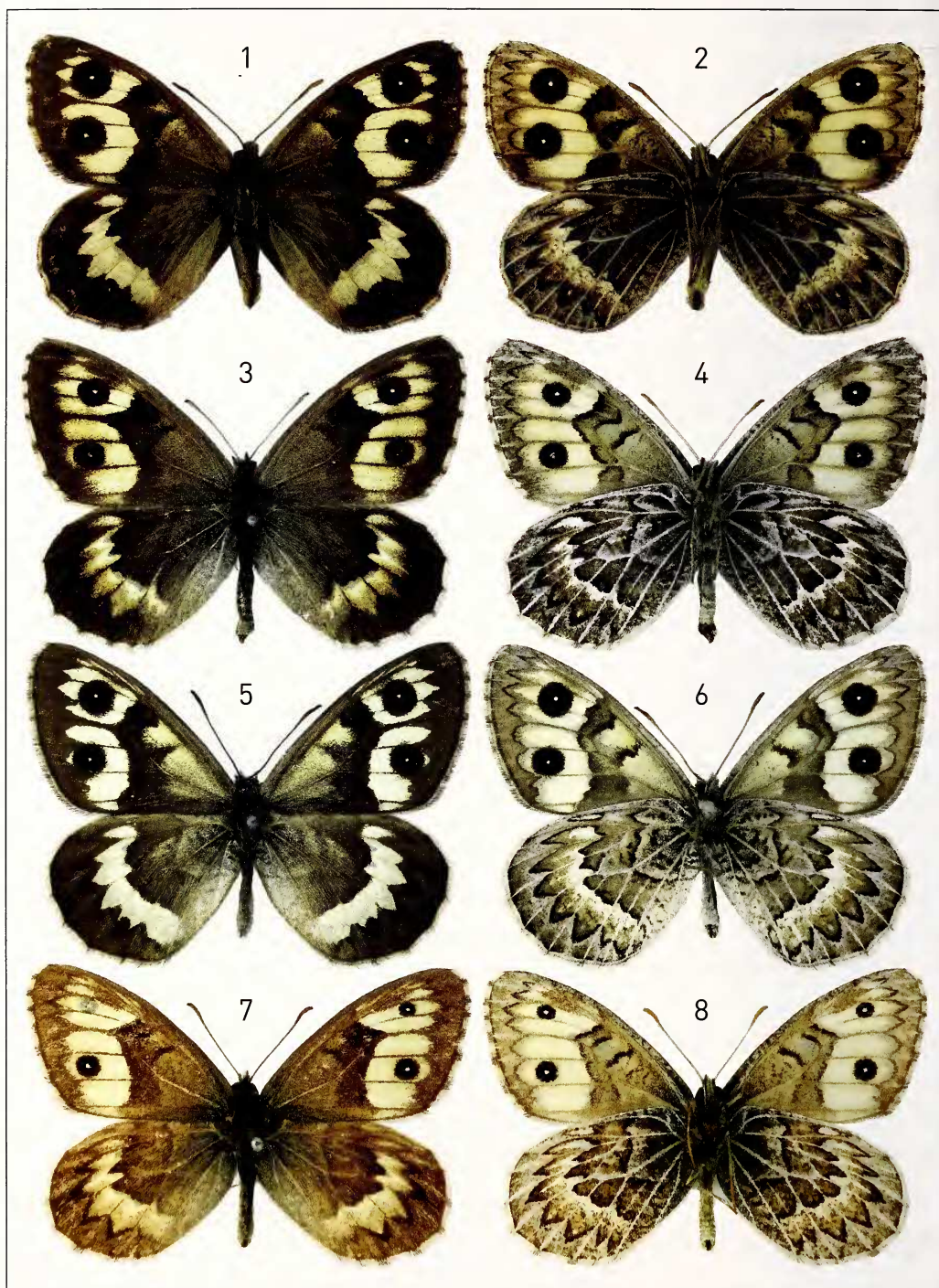
The taxonomy of some of the taxa of the genus *Karanasa* Moore, 1893 inhabiting high mountainous Central Asia remains unclear. One of these taxonomic problems is the status of the species-group taxon *Satyrus abramovi* var. *korlana*, described by O. Staudinger from “Korla” (eastern extensions of Tian-Shan in China near the city of Korla). A. Avinoff & W. R. Sweadner (1951) listed this taxon as the separate species *Karanasa korlana* (op. cit.: 101) and also as a subspecies of *K. regeli* (Alphéraky, 1881) (op. cit.: 191, 195). These two authors have been the last who revised the genus *Karanasa*, but they did not use genitalia features in their revision. For clarification of this problem, to resolve the status of the taxon *korlana*, I revised its type material as well as the type material of other closely related taxa.

Abbreviations

SK	S. K. Korb collection, housed in Nizhny Novgorod, Russia
ZMMU	Zoological Museum of the Moscow University, Moscow, Russia
ZMHB	Museum für Naturkunde an der Humboldt-Universität, Berlin, Germany

Material and methods

The following name-bearing types have been studied: syntypes of *Satyrus abramovi* var. *korlana*; lectotype of *Satyrus regeli* Alphéraky, 1881 (lectotype designated by Korb 2012: 46); syntypes of *Satyrus regeli* var. *regulus* Staudinger, 1887 (all three taxa are currently classified in *Karanasa*).



Figs 1–8. *Karanasa* Moore, 1893. 1, 2. topotype male, upperside (1) and underside (2), 12.viii.2006, Kyrgyzstan, Chatyr-Kul Lake environs, 2800 m. 3, 4. *Karanasa regeli korlana* (Staudinger, 1901), lectotype male, upperside (3), underside (4), Korla. 5, 6. *Karanasa abramovi regulus* (Staudinger, 1887), lectotype male, upperside (5), underside (6), Transalai. 7, 8. *Karanasa regeli* (Alphéraky, 1881), lectotype male, upperside (7), underside (8), Tian Shan.



Figs 9, 10. Lectotype labels. 9. *Karanasa regeli korlana* (Staudinger, 1901). 10. *Karanasa abramovi regulus* (Staudinger, 1887).

For nomenclatural stability and to fix the exact type locality I designate here the lectotype of *Satyrus abramovi* var. *korlana*. For the same reason I designate here the lectotype of *Satyrus regeli* var. *regulus*. Lectotypes are preserved in ZMHB.

Satyrus abramovi var. *korlana*

Figs 3, 4, 9, 12, 15

Material. Lectotype ♂, 'Origin.'; 'v. Korlana Stgr.'; 'Korla'; 'Abramovi | v.'; printed on red paper 'LECTOTYPUS ♂ | korlana | Stgr. | S. K. Korb design. 17.04.2012'. Paralectotype 1 ♀.

Satyrus regeli var. *regulus*

Figs 5, 6, 10, 13, 16

Material. Lectotype ♂, 'Transalai | Pamir ? | 88 Maur.'; 'Abramovi | Ersch. | Regulus | Stgr.'; 'LECTOTYPUS ♂ | regulus | Stgr. | S. K. Korb design. 17.04.2012'. Paralectotypes 3 ♂, 1 ♀.

Karanasa regeli (Alphéraky, 1881)

Figs 7–10, 12, 14, 15

Material. **Kazakhstan:** 12 ♂, 3 ♀, Transilian Alatau Mts, Assy valley, 24.vii.2010, leg. P. Egorov, SK; 2 ♂, Transilian Alatau Mts, Koram, 2200 m, 14.viii.1957, Panfilov leg., ZMMU. **Kyrgyzstan:** 2 ♂, 1 ♀, Kungey Ala-Too Mts, Grigoryevskoye valley, 2500 m, 12.viii.2003, leg. S. K. Korb, SK; 1 ♂, Kungey Ala-Too Mts, Temirovka, viii.2010, local collector, SK; 1 ♂, 1 ♀, Kungey Ala-Too Mts, Toguzbulak, 2000 m, 7.viii.2003, leg. S. K. Korb, SK.

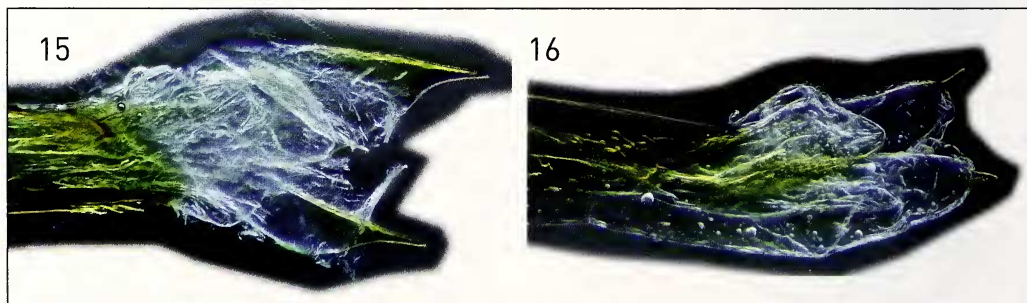
Karanasa abramovi (Erschoff, 1884)

Figs 1–8, 11, 13, 16

Material. **Kyrgyzstan:** 2 ♂, Chatyr-Kul Lake environs, 2800 m, 12.viii.2006, leg. S. K. Korb, SK; 2 ♂, Kyrgyz Mts, Ala-Archa Nature Reserve, upper course of Ala-Archa river, 3000 m, 02.viii.2003, leg. S. K. Korb, SK; 6 ♂, 2 ♀, West Tian-Shan <sic!>, Dolon Pass, 3000 m, 9.viii.1967, leg. A. Tsvetaev, ZMMU; 2 ♂, Transalai Mts, Aram-Kungei, unknown collector, SK.



Figs 11–14. Male genitalia. **11.** *Karanasa abramovi* (Erschoff, 1884), topotype. **12.** *Karanasa regeli korlana* (Staudinger, 1901), lectotype. **13.** *Karanasa abramovi regulus* (Staudinger, 1887), lectotype. **14.** *Karanasa regeli* (Alphéraky, 1881), paralectotype, Tian Shan.



Figs 15, 16. Vesica and distal part of phallus. **15.** *Karanasa regeli korlana* (Staudinger, 1901), lectotype. **16.** *Karanasa abramovi regulus* (Staudinger, 1887), lectotype.

Discussion and Conclusions

During the examination of the type material and additional specimens the following differences between *K. regeli* and *K. abramovi* were found in the male genitalia (Figs 11–16). In *K. abramovi* the valva is elongated, with no extension in its distal part; in *K. regeli* it is more massive, with an extension in its distal part. In *K. abramovi* the dorsal

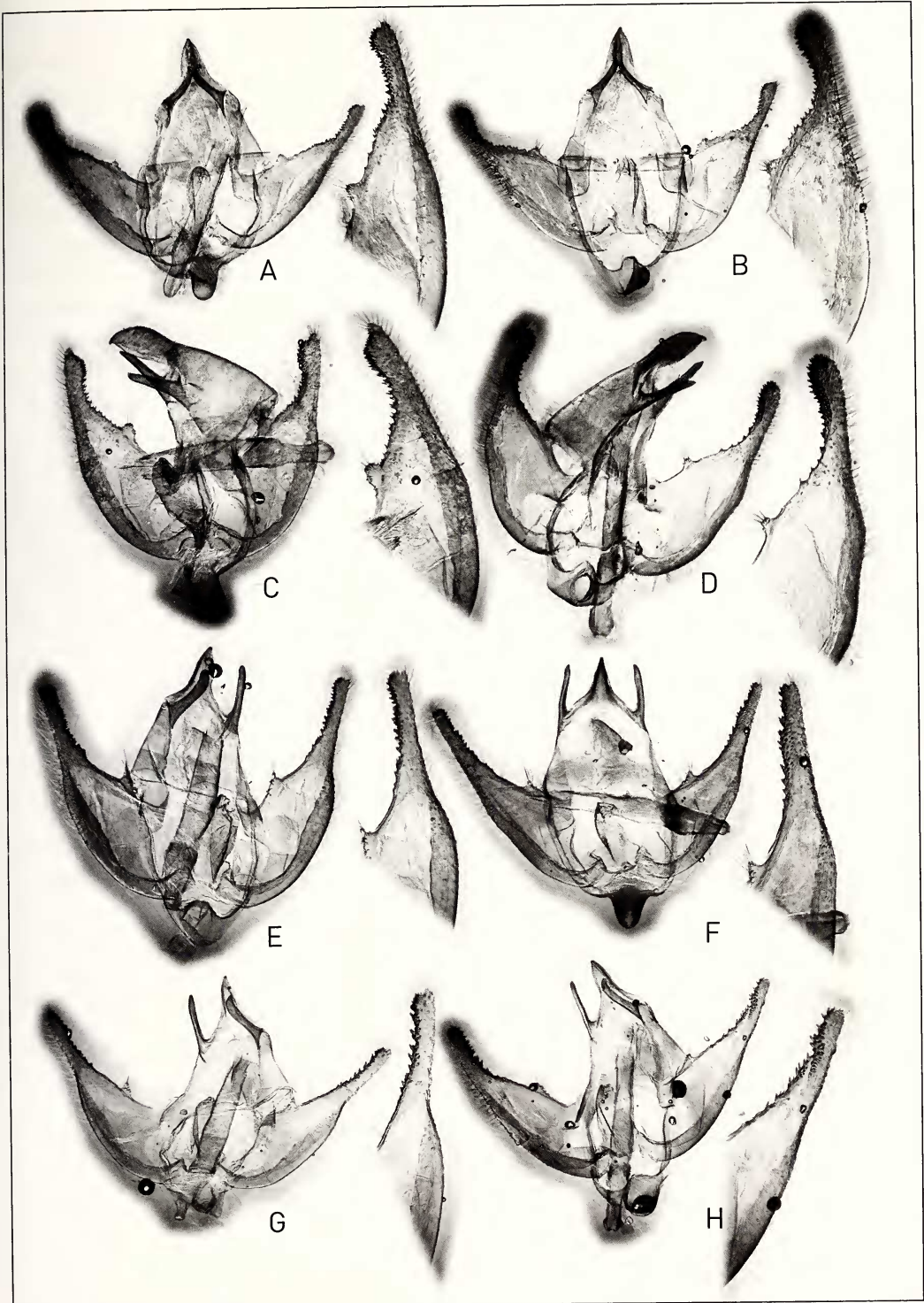


Fig. 17. Variability of genitalia in *Karanasa* species. **A–D.** *K. regeli* (Alphéraky, 1881), Transili Alatau Mts, Assy valley (**A, B**), Terskey Ala-Too Mts, Pokrovka environs (**C, D**). **E–H.** *K. abramovi* (Erschoff, 1884), Akshiyarak Mts, Dolon Pass.

side of the valva continues towards the apex in a more or less smooth line, whereas in *K. regeli* it forms a bend at about one quarter from the apex. In *K. abramovi* the outgrowth on the dorsal side of the valva at about one third from the base is always pointed and can be divided into two or three parts, whereas in *K. regeli* it is always somewhat rounded and forms one whole. In *K. abramovi* the dorsal teeth on the valva, mostly present apically, are always separated from this outgrowth with an area without teeth; in *K. regeli* they start almost immediately after the outgrowth. In *K. abramovi* the vesica has two small spine-like cornuti; in *K. regeli* it has two quite large scale-like cornuti.

Due to the fact that genitalia features of the taxon *korlana* match much more closely those of *K. regeli* than those of *K. abramovi*, *korlana* is now considered a subspecies of *K. regeli*. It is its most widely distributed subspecies, distributed in Khalyktau, Borokhotan, Narat, Borto-Ula, Kuruktag, Avral-Ula and the Uken Mountains in north-western China. Both species (*K. abramovi* and *K. regeli*) are similar in wing pattern but significantly different in genitalia (as described above).

Only one infrasubspecific taxon for this group is currently established: *K. abramovi* ab. *erschovi* Avinov, 1910 (a yellow aberration of the female). Individual variation in both taxa is only present in the colour and width of the light-coloured band on the upper-side of the wing and in the size of the eyespots. Wing pattern variability in both species is very large. Very high variation in genitalia structures is also present, but this does not obscure the specific features as the variation only occurs in smaller details. This variation should be studied in more detail in the future (Fig. 17).

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